Lab Manual to Accompany
A+ Guide to Managing and Maintaining Your PC
SEVENTH EDITION

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Lab Manual to Accompany
A+ Guide to Managing and Maintaining Your PC, Seventh Edition
Jean Andrews/Todd Verge

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Library of Congress Control Number: 2009940008

ISBN-13: 978-1-435-48740-6

ISBN-10: 1-435-48740-0

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Printed in the United States of America
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CHAPTER 1

Introducing Hardware

Labs included in this chapter:

- **Lab 1.1**: Gather and Record System Information
- **Lab 1.2**: Identify Computer Parts
- **Lab 1.3**: Use Software to Examine a Computer, Part 1
- **Lab 1.4**: Use Software to Examine a Computer, Part 2
- **Lab 1.5**: Compare Costs of Systems
- **Lab 1.6**: Plan an Ideal System

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LAB 1.1 GATHER AND RECORD SYSTEM INFORMATION

OBJECTIVES

The goal of this lab is to use a system's physical characteristics and operating system to determine how the system is configured. After completing this lab, you will be able to:

- Gather system information by observing a system
- Use available Windows tools to access specific system information

MATERIALS REQUIRED

This lab requires the following:

- Windows Vista/XP operating system
- Individuals or a workgroup of 2 to 4 students

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Verify that Windows starts with no errors.

ACTIVITY BACKGROUND

When working with a computer system, it's a good idea to know what components are installed on the system. This lab helps you identify some of these components as you gather information by observing the system and by using system tools.

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ESTIMATED COMPLETION TIME: 15 Minutes

Activity

Observe the physical characteristics of your system and answer the following questions:

1. Does the outside of the case have any identification on it indicating manufacturer, model, or component information? If so, list this information:

   _____

2. How many CD or DVD drives does your system have?

   _____

3. Describe the shape or type of the connection your mouse uses:

   _____

4. How many USB ports are in the back of your system? How many are in the front?

   _____

5. How many internal hard drives does your system have? Explain how you got your answer:

   _____

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Most versions of Windows allow users to customize the display of information to suit their tastes. Windows XP and Vista can mimic the way previous versions of Windows presented menus and settings for users who are more comfortable with these presentations. Complete the following steps to restore Windows defaults to your system:

1. Boot your system and log on, if necessary. Click **Start**, and then click **Control Panel** to open the Control Panel window.
2. If Classic view has been enabled, select **Control Panel Home** in Vista or click **Switch to Category View** in XP. Figure 1-1 shows the Control Panel in Category view for Vista.

Figure 1-1 Windows Vista Control Panel in Category view
Courtesy: Course Technology/Cengage Learning

3. With Category view enabled, click the **Appearance and Personalization** (**Appearance and Themes** in XP) category. The Appearance and Personalization window opens.
4. In the Appearance and Personalization window, click **Folder Options** in the Control Panel icons list to open the Folder Options dialog box.
5. On the General tab of the Folder Options dialog box, click the **Restore Defaults** button (see Figure 1-2), and then click **Apply**.
6. Click the **View** tab in the Folder Options dialog box (see Figure 1-3). Click the **Restore Defaults** button, and then click **OK** to apply the settings and close the dialog box.
7. In the Appearance and Personalization window, click the **Taskbar and Start Menu** icon. The Taskbar and Start Menu Properties dialog box opens.

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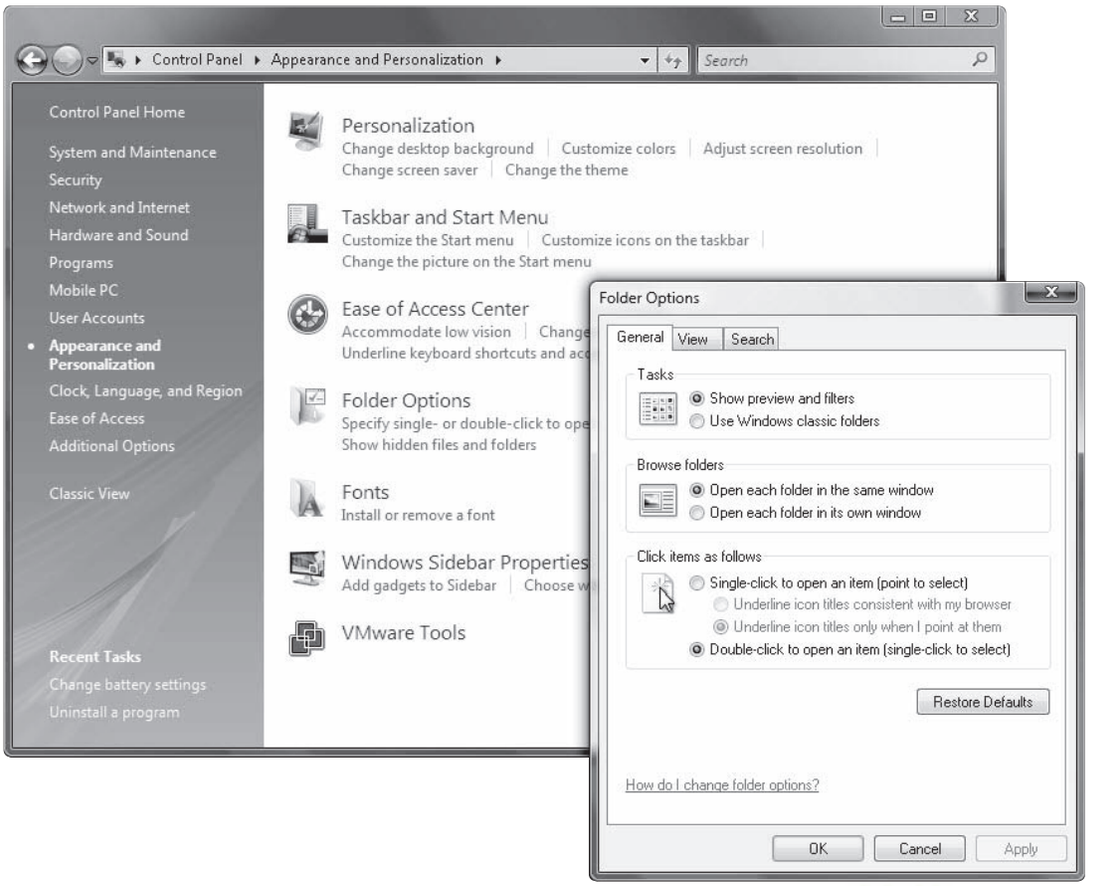

Figure 1-2 Use the Folder Options dialog box to restore Windows defaults to a folder
Courtesy: Course Technology/Cengage Learning

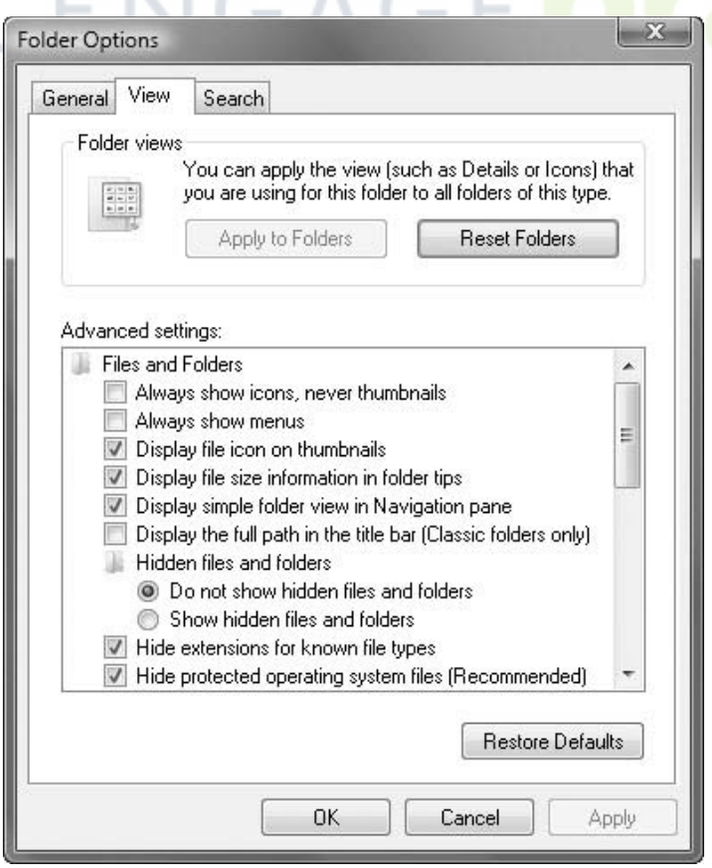
Folder Options
General
View
Search
Folder views
You can apply the view (such as Details or Icons) that you are using for this folder to all folders of this type.
Apply to Folders
Reset Folders
Advanced settings:
Files and Folders
Always show icons, never thumbnails
Always show menus
Display file icon on thumbnails
Display file size information in folder tips
Display simple folder view in Navigation pane
Display the full path in the title bar (Classic folders only)
Hidden files and folders
Do not show hidden files and folders
Show hidden files and folders
Hide extensions for known file types
Hide protected operating system files (Recommended)
Restore Defaults
OK
Cancel
Apply

Figure 1-3 The View tab of the Folder Options dialog box
Courtesy: Course Technology/Cengage Learning

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8. On the Taskbar tab, verify that all check boxes in the Taskbar appearance section are selected, except for Auto-hide the taskbar and Show Quick Launch, as shown in Figure 1-4. Click **Apply** if any changes were made.

Figure 1-4 Use the Taskbar and Start Menu Properties dialog box to control how the taskbar appears and functions
Courtesy: Course Technology/Cengage Learning

9. Click the **Start Menu** tab in the Taskbar and Start Menu Properties dialog box. Verify that the Start menu option button is selected, as shown in Figure 1-5. Click **OK** to apply the settings and close the dialog box. Close the Appearance and Personalization window.

From the Start menu, open the Control Panel and click the **System and Maintenance** (**Performance and Maintenance** in XP) category. The System and Maintenance window opens. In the System and Maintenance window, click the **System** icon to open the System Properties dialog box. Record the following information:

1. Which OS is installed and what is the version number?

_____

2. Have any service packs been installed?

_____

3. To whom is the system registered?

_____

4. What kind of CPU (type and speed) is installed in your system?

_____

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Taskbar and Start Menu Properties
Taskbar
Start Menu
Notification Area
Toolbars
Start menu
This menu style gives you easy access to your folders, favorite programs, and search.
Customize...
Classic Start menu
This menu style gives you the look and functionality of previous versions of Windows.
Customize...
Privacy
Store and display a list of recently opened files
Store and display a list of recently opened programs
How do I change the way the Start menu looks?
OK
Cancel
Apply

Figure 1-5 The Start Menu tab of the Taskbar and Start Menu Properties dialog box
Courtesy: Course Technology/Cengage Learning

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5. How much RAM is installed in your system?

_____

6. Vista provides a rating called a Windows Experience Index to help you rate and improve your system's performance. Click **Windows Experience Index** to gather further details. What is your computer's base score? _____

_____

7. Close the System Properties dialog box and the Performance and Maintenance window.

At this point, click **Start**, click **Computer** (**My Computer** in XP), and locate the following information:

1. How many hard disk drives are listed, and which drive letters are assigned to them?

_____

2. How many devices with removable storage are listed, and which drive letters are assigned to them?

_____

3. How many network drives are listed, and what are their names?

_____

4. Move the mouse pointer over the icons to determine information about the drives. What is the total amount of free hard drive space on your system?

_____

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REVIEW QUESTIONS

1. List two categories available in Control Panel that were not mentioned in the lab:

2. Based on the Windows Experience Index, what component of your computer would you upgrade first? Why?

3. What differences, if any, are there between a list of components derived from a physical inspection versus a list of components derived from My Computer and System Properties?

LAB 1.2 IDENTIFY COMPUTER PARTS

OBJECTIVES

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The goal of this lab is to examine your computer to identify the parts inside and outside the case. After completing this lab, you will be able to:

- Identify computer components outside the case
- Identify computer components inside the case

MATERIALS REQUIRED

This lab requires the following:

- A computer that can be disassembled
- A Phillips-head screwdriver
- An antistatic ground bracelet (wrist strap)
- Workgroup of 2 to 4 students
- A display of four or more computer parts to be identified by students

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Provide a computer that can have the cover removed for each student workgroup.
- Gather up four or more computer parts for display in each student workgroup or area of the lab.

ACTIVITY BACKGROUND

When working with a computer system, you must be able to identify the hardware components, both inside and outside the case. Components are not always labeled adequately, especially those inside the case. This lab helps you learn to recognize these components.

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ESTIMATED COMPLETION TIME: 30 Minutes

Activity

Observe the physical characteristics of your system and answer the following questions:

1. What size monitor do you have? Measure from the upper-left corner to the lower-right corner (the diagonal) on the monitor screen. Is the measurement what you expected for the size of the monitor?

2. How many keys are on your keyboard?

3. What other external components does your PC have (speakers, printer, and so forth)? Describe each component with as much detail as you can.

4. Look at the back of your PC and list all cables and cords connected to ports and other connections. Fill in the following chart:

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Describe the port or connector to which the cable or cord is connected	Purpose of the cable or cord
1.	
2.	
3.	
4.	
5.	
6.	

5. What other ports on the PC are not being used? List them:

Next, you'll open the PC case (see Figure 1-6) and examine the components inside. As you work, make sure you do not touch anything inside the case unless you're wearing an antistatic ground strap that's clipped to the case so that any electrical difference between you and the case is dissipated.

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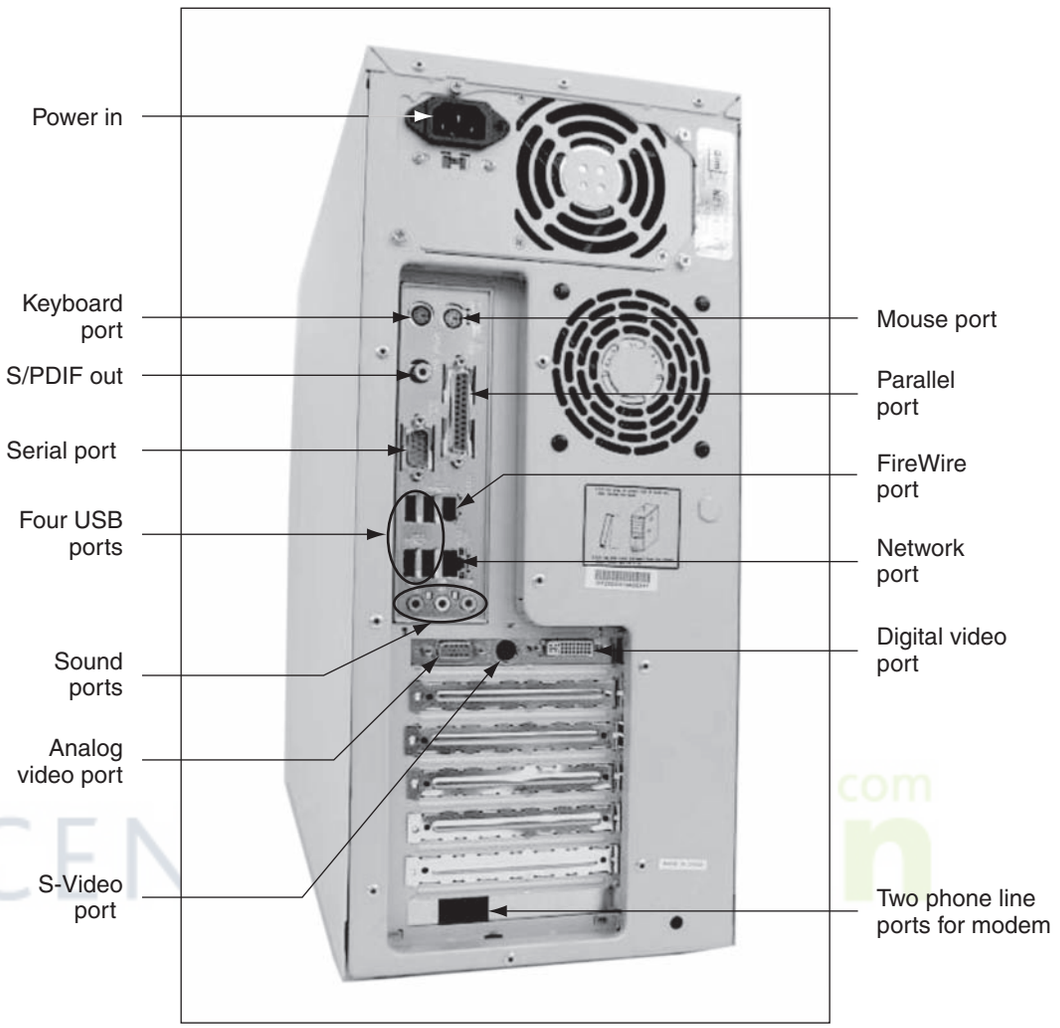

Figure 1-6 Common ports and connectors found on the back of a PC
Courtesy: Course Technology/Cengage Learning

To remove the cover from a PC with screws, follow these steps:

1. Power down the PC and unplug it. Next, unplug the monitor, printer, and any other device that has its own external power supply. Do not disconnect any cables or cords (other than the power supply cord) connected to the back of the PC case.
2. Case manufacturers use slightly different methods to open the case. Many newer cases require that you remove the faceplate on the front of the case first. Other cases require removing a side panel first, and very old cases require removing the entire sides and top as a single unit first. Study your case for the correct approach.

Notes In the steps that follow, you will find general guidelines for disassembling a PC. If any of these steps do not seem to apply to your system, you'll need to consult the user manual or download a PDF of the manual from the manufacturer's Web site for more detailed instructions.

3. For a desktop or tower case, locate and remove the screws on the back of the case. Be careful not to unscrew any screws besides the ones attaching the cover. The other screws are probably holding the power supply in place.
4. After you remove the cover screws, slide the cover back to remove it from the case, as shown in Figure 1-7.

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Figure 1-7 Slide a side panel to the rear and then lift it off the case
Courtesy: Course Technology/Cengage Learning

5. To remove the cover from a tower PC with no visible case screws, power down the PC and unplug it from its power outlet. Next, unplug the monitor and any other device with an external power source from the power outlet.
6. On some cases, you must pop the front panel off the case before removing the side panels. Look for a lever on the bottom of the panel and hinges at the top. Squeeze the lever to release the front panel and lift it off the case (see Figure 1-8). Then remove any screws holding the side panel in place, as shown in Figure 1-9, and slide the side panel to the front and then off the case.

Notes Some case panels don't use screws at all; these side panels usually have buttons or tabs to release the cover.

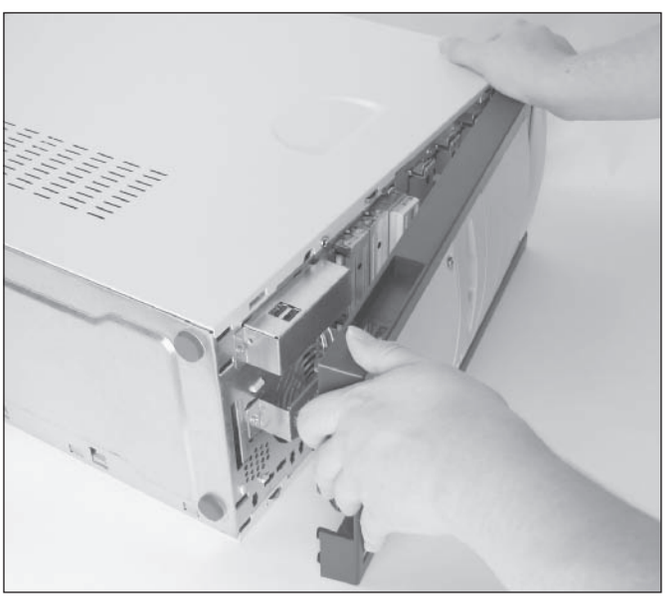

Figure 1-8 Some cases require removing the front panel before removing the side panels of a computer case
Courtesy: Course Technology/Cengage Learning

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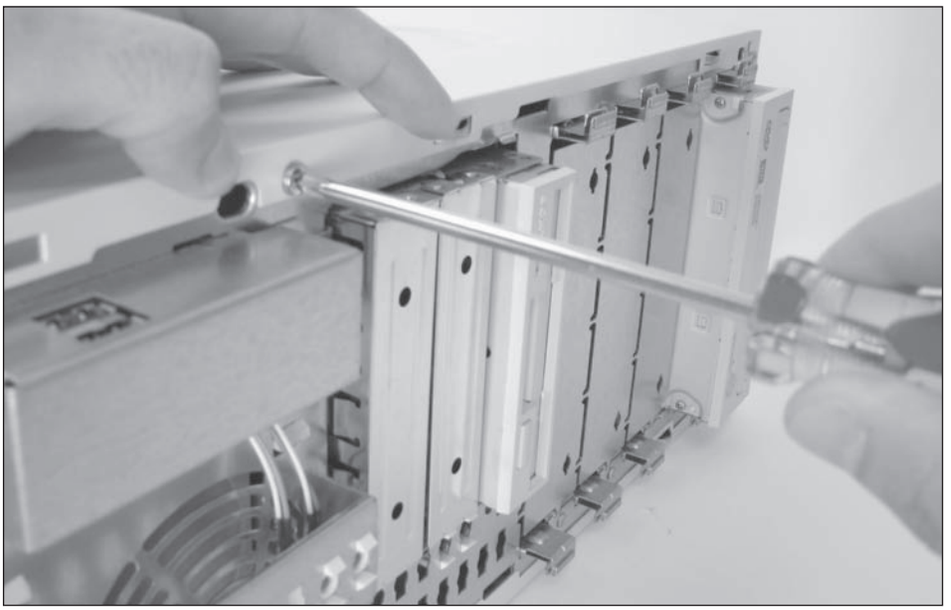

Figure 1-9 Screws hold the side panel in place
Courtesy: Course Technology/Cengage Learning

With the cover removed, you're ready to look for some components. As you complete the following, you may wish to refer to the drawings and photos in Chapters 4 through 8 of *A+ Guide to Hardware* or consult the Internet for additional information on the specific components in your system.

1. Put on your antistatic ground strap and connect the clip to the side of the computer case.
2. Identify and describe the following major components. List any other components you find inside the case. Fill in the following chart:

Component	Description—Include the manufacturer and model name (if listed) as well as its distinguishing characteristics
Power supply	
Motherboard	
Hard drive(s)	
CD/DVD-ROM drive(s)	
CPU	
RAM	
Cooling fan (not inside the power supply)	
Video card (if not onboard)	
Network card (if not onboard)	
Sound card (if not onboard)	

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CHALLENGE ACTIVITY

If your instructor has prepared a display of four or more assorted computer parts, fill in the following chart:

Identify the part	Describe how you determined your answer
1.	
2.	
3.	
4.	
5.	
6.	

REVIEW QUESTIONS

1. Describe how you decided which expansion card was the video card:

2. Describe how you identified the type of CPU you have:

3. Does your system have much room for adding new components? What types of expansion bus slots are available for adding new cards?

4. Is there space for upgrading the RAM? If there isn't, what could you do to still upgrade?

5. Where (specifically) would you go on the Internet to download a PDF of the motherboard or system manual? What information would be required?

LAB 1.3 USE SOFTWARE TO EXAMINE A COMPUTER, PART 1

OBJECTIVES

The goal of this lab is to use Sandra Lite to examine your system. After completing this lab, you will be able to:

- Download a file from the Internet
- Install Sandra Lite
- Use Sandra Lite to examine your system

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MATERIALS REQUIRED

This lab requires the following:

- Windows Vista/XP operating system
- Internet access
- If necessary, software such as WinZip to uncompress a downloaded file

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Verify that Internet access is available.
- For labs that don't have Internet access, download these files to a file server, flash drive, CD-R, or other media available to students in the lab:
  - Sandra Lite executable file downloaded from *www.sisoftware.net*.
  - If Windows cannot uncompress the file, an uncompress utility, such as WinZip, can be downloaded from *www.winzip.com*.

ACTIVITY BACKGROUND

Good PC support people are always good investigators. In previous labs, you learned how to gather information about your computer through the operating system and by a physical inspection. In this lab, you will download a diagnostic program from the Internet. These programs can be used to learn about your system, establish a benchmark of its speed and other characteristics, and even diagnose some common problems. If you have a classroom printer available, you'll print a report from the downloaded software about the hardware and software on your computer.

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ESTIMATED COMPLETION TIME: 45 Minutes

Activity

Notes If the SiSoftware Web site is unavailable, you can use a search engine to locate the program.

1. Open your browser and go to **www.sisoftware.net**.
2. Click the link called **Download & Buy**. You will be downloading a free evaluation copy of Sandra Lite.
3. Follow one of the links pointing to a location for downloading Sandra Lite (Evaluation).
4. Follow the instructions on the site you selected to begin the download process.
5. When the File Download dialog box opens, save the file to your PC desktop. You can then disconnect from the Internet. What is the name of the downloaded file?

_____

Next, follow these steps to install Sandra on your PC:

1. If the file has a .zip file extension, double-click it to uncompress the Sandra zip file and extract the setup file.

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2. Run the setup program by double-clicking the executable file, which has an .exe file extension. (It might be the downloaded file or the extracted file.) If an Open File - Security Warning dialog box appears, click **Run**. In the installation wizard, use English as the language selection, accept the end user license agreement (EULA), and accept the default settings throughout. Click **Finish** to complete the installation. The Sandra installation creates a new item in your All Programs menu and adds an icon to your desktop.

   Note: The installation may require you to install or update DirectX.

3. When you finish the installation, Sandra will start. If a Customize Rank Engines box appears, close it. Read the Tip of the Day, click the **Module Options** tab, uncheck the **Show Tips and News on Start-up** check box, and then click **OK** to close. You should see a screen similar to the one in Figure 1-10.

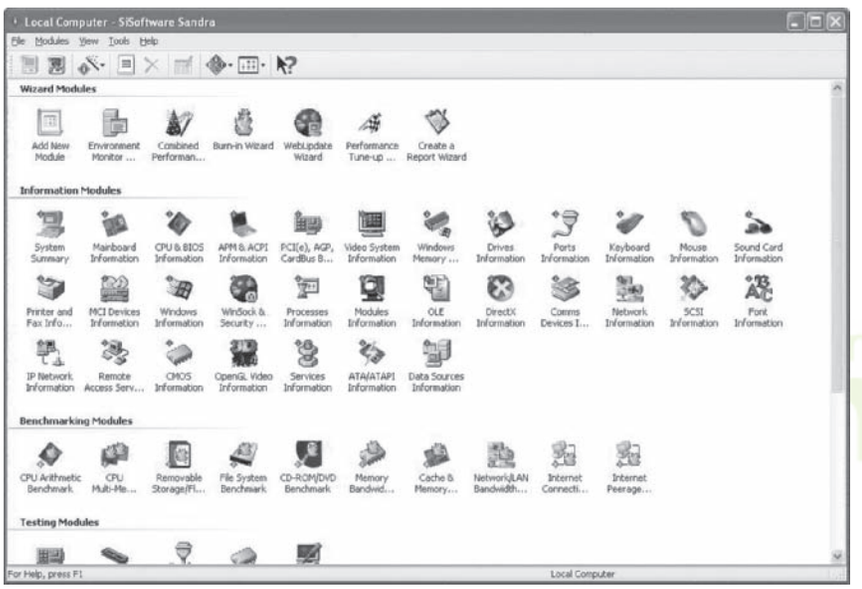

Figure 1-10 SiSoftware Sandra main window
Courtesy: Course Technology/Cengage Learning

You can run each utility by double-clicking its icon, or you can create a composite report of the results of each selection. To learn more, complete the following:

1. Double-click the **Hardware** icon and then double-click **Computer Overview**. The Computer Overview utility starts and gathers information about your system before displaying it in a format similar to Device Manager, with devices listed by type. According to this utility, what kind of video adapter is your system using?

   _____

2. Click the red X at the bottom of the Computer Overview – SiSoftware Sandra window or press **Esc** to close the Computer Overview utility.

3. Next, click the **Software** tab and double-click the **Operating System** icon to start that utility. Scroll down and note the information types that are listed. According to this utility, which version of Windows are you using?

   _____

4. What is the path to the Temporary folder on your system?

   _____

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5. What is your Windows installation product key?

_____

6. Click the red X at the bottom of the Operating System – SiSoftware Sandra window or press **Esc** to close the Operating System utility.
7. Next, double-click the **Physical Disks** icon (in the Hardware section). The utility begins to gather information about your drives. Do not move the mouse or touch the keyboard while this procedure is in progress. How much total space does your main hard drive contain? What interface type does it use and what is its cache size?

_____

_____

8. Click the red X at the bottom of the Physical Disks – SiSoftware Sandra window or press **Esc** to close the Physical Disks utility.
9. Find and double-click the **Memory Usage** icon to start that utility. What is the name and location of the page file?

_____

10. Close the Memory Usage utility.

You can also use Sandra Lite to create a composite report of your system. To learn more, follow these steps:

1. From the SiSoftware Sandra interface, click the **Tools** tab and click the **Create Report** icon.
2. Click **Next** (right-pointing arrow) to begin the creation.
3. In the Step 1 of 9 window, select **Make choices and generate report**, if necessary, in the drop-down list, and click **Next** to continue.
4. In the Hardware section (Step 2 of 9), click the **Clear All** (red X over a box) button. Click to select **Mainboard** and click **Next** to continue.
5. In the Benchmarks section (Step 3 of 9), click the **Clear All** button. Click **Memory Bandwidth** and click **Next** to continue.
6. In the Software section (Step 4 of 9), click the **Clear All** button, and then click **Next** to continue.
7. In the Support section (Step 5 of 9), click the **Clear All** button, and click **Next** to continue.
8. In the Comments on report section (Step 6 of 9), add any comments, if you like, and then click **Next** to continue.
9. In the Delivery section (Step 7 of 9), click the **Print or Fax** option in the drop-down list, and then click **Next** to continue.
10. In the Print or Fax dialog box, select your printer and click **OK** (green check mark). When Sandra has finished printing your report, you can click the **Exit** button (red X) to close the wizard and then collect your report from the printer.
11. Continue to explore each utility in Sandra, and then close it. You'll use Sandra again in later chapters, so don't uninstall it.

In this lab, you downloaded Sandra from the SiSoftware Web site, but many popular utilities are available from multiple sources on the Internet. To see for yourself, follow these steps:

1. Attempt to find Sandra at *www.zdnet.com*.
2. Is the program available through this avenue as well? Print the Web page or pages to support your answer.

_____

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REVIEW QUESTIONS

1. From your printed report, what type of memory module(s) are installed in your system?

2. From your printed report, what is the maximum front side bus (FSB) speed of your mainboard?

3. Use the Analysis and Advice feature in the Tools section to generate a report. In your opinion, what is the most important advice contained in this report? Why?

4. How might Sandra be used when upgrading your computer?

LAB 1.4 USE SOFTWARE TO EXAMINE A COMPUTER, PART 2

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OBJECTIVES

The goal of this lab is to use Belarc Advisor to examine your system. After completing this lab, you will be able to:

- Download a file from the Internet
- Install Belarc Advisor
- Use Belarc Advisor to examine your system

MATERIALS REQUIRED

This lab requires the following:

- Windows Vista/XP operating system
- Internet access

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Verify that Internet access is available.
- For labs that don't have Internet access, download Belarc Advisor (Advisor.exe) from *www.belarc.com* and make the file available to students in the lab.

ACTIVITY BACKGROUND

Good PC support people know that there's always more than one way to do something. In Lab 1.3, you learned to use Sandra to investigate your system. In this lab, you use another shareware utility, Belarc Advisor, to examine your system. Follow these directions to find

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and download this utility that you can use to diagnose PC problems. Then you print a report from the downloaded software about the hardware and software on your computer.

If your lab doesn't have Internet access, ask your instructor for the location of files downloaded previously for you to use. Write the path to those files here:

_____

ESTIMATED COMPLETION TIME: 30 Minutes

Activity

1. Open your browser and go to **www.belarc.com**.
2. Click the **FREE DOWNLOAD** link.
3. Follow one of the links pointing to a location that offers Belarc Advisor for download.
4. Follow the instructions on the site you selected to begin the download process.
5. When the File Download dialog box opens, save the file to your PC desktop. You can then disconnect from the Internet. At the time that this book was written, the downloaded filename was Advisor.exe, but sometimes Web sites and filenames change. What is the name of your downloaded file?

_____

Notes If the Belarc Web site is unavailable, you can use a search engine to locate the shareware.

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Next, follow these steps to install Belarc Advisor on your PC:

1. Run the setup program by double-clicking the downloaded executable file, **Advisor.exe** (or the name of your downloaded file). If an Open File - Security Warning dialog box appears, click **Run**. In the installation wizard, accept the EULA and click **Install**. If the installation prompts you to check for new definitions, click **No**. The Belarc Advisor installation automatically takes a snapshot of your computer, and then creates an item in your Start menu and adds an icon to your desktop.
2. When you finish the installation, Belarc Advisor uses your default Web browser to show the results of the snapshot. If you're using Internet Explorer, you should see a screen similar to the one in Figure 1-11.

Answer the following questions to learn what Belarc Advisor is telling you about your system:

1. What is the name of the manufacturer and model of the motherboard installed on your system?

_____

2. What is the version of Windows you're using?

_____

3. What is the product key for Windows?

_____

4. What is the speed and model of the processor for the system?

_____

5. Are there any security updates that need to be applied?

_____

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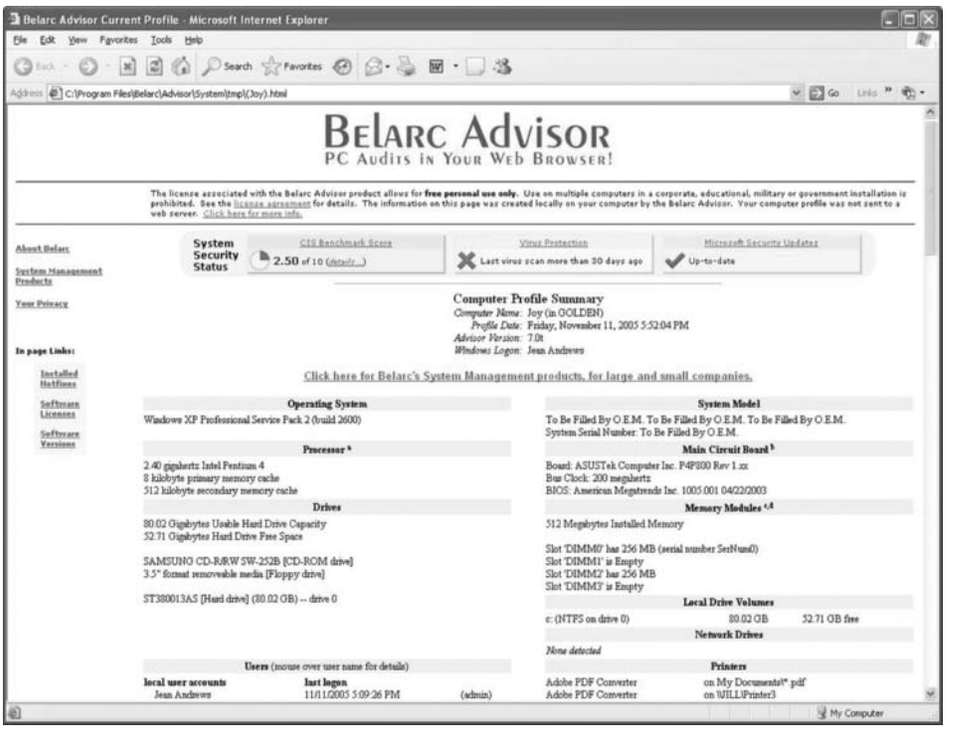

Figure 1-11 Belarc Advisor uses your browser to display information about your system
Courtesy: Course Technology/Cengage Learning

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6. How much total space does the hard drive contain? How much free space does the hard drive contain? What type of file system does the hard drive use?

_____

_____

7. To print the Belarc results, click **File**, **Print** from your browser's menu. In the Print dialog box, click **Print**. Take a few minutes to explore the report that Belarc Advisor generated. List three other items of information not mentioned already in this lab that you think might be useful when troubleshooting a computer:

_____

_____

_____

8. Exit from your browser when you are finished.

You'll use Belarc Advisor again in later chapters, so don't uninstall it.

In this lab, you downloaded Belarc Advisor from the Belarc Web site, but many popular utilities are available from multiple sources on the Internet. To see for yourself, follow these steps:

1. Attempt to find Belarc Advisor at *www.zdnet.com*.
2. Is the program available through this avenue as well? Print the Web page or pages to support your answer.

_____

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REVIEW QUESTIONS

1. What URL can you use to find a link to download Belarc Advisor?

2. What tool do you use to get a printed report from Belarc Advisor?

3. What type of software is Belarc Advisor?

4. Compare Belarc Advisor to Sandra that you downloaded and used in Lab 1.3. Which utility do you think is the most useful, and why? Which is easier to use?

LAB 1.5 COMPARE COSTS OF SYSTEMS

OBJECTIVES

The objective of this lab is to compare a preassembled system with the components that could be assembled to build a comparable system. After completing this lab, you will be able to:

- Identify the key components of a preassembled system
- Locate prices for components needed to assemble a comparable system
- Compare the cost of a preassembled system and a self-assembled system

MATERIALS REQUIRED

This lab requires the following:

- Internet access and/or access to a printed computer publication, such as *Computer Shopper*

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Verify that Internet access is available.

ACTIVITY BACKGROUND

In this lab, you compare the cost of a brand-name system with the cost of a system having similar specifications but assembled from separate components. Brand-name manufacturers typically build their systems from parts that only they market; these parts are called "proprietary" parts. Therefore, it's unlikely that you'll be able to find exact matches for brand-name components. However, you can find comparable components. For example, if a Gateway computer has a 500 GB hard drive installed, find another 500 GB hard drive for your list of parts. The idea is to find a close match for each major component so that you can compare the total cost of a brand-name system and a similar system built from parts. Use the Internet and available computer-related publications as your sources for information.

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ESTIMATED COMPLETION TIME: 45 Minutes

Activity

1. Find an advertisement for a complete, preassembled system similar to the one in Figure 1-12. Some manufacturers you might want to check out are Gateway (*www.gateway.com*), Dell (*www.dell.com*), and HP (*www.hp.com*).

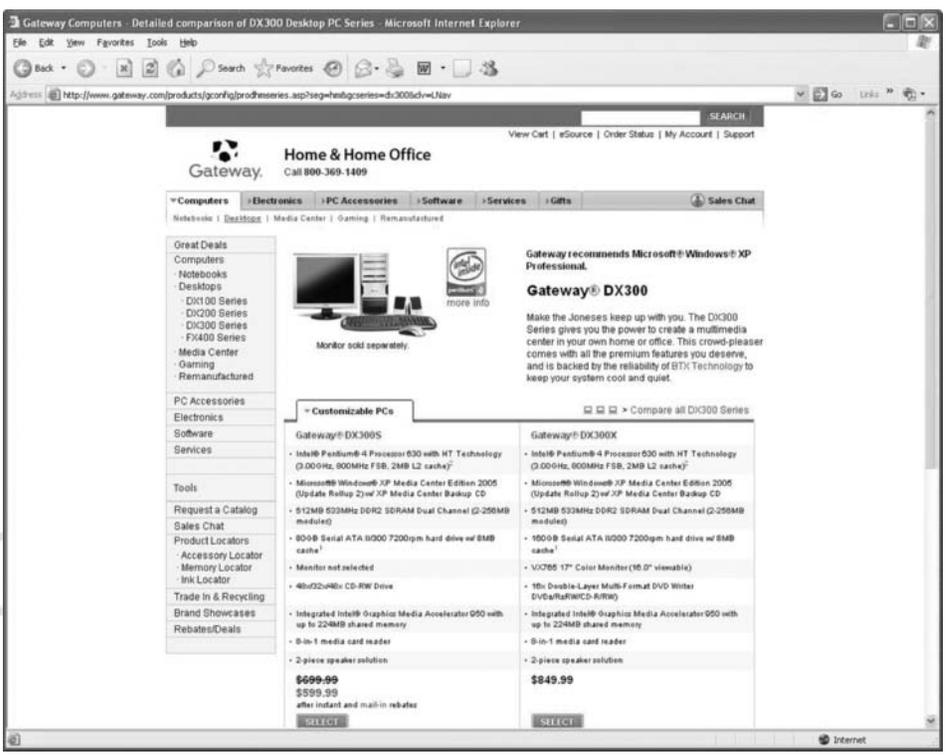

Figure 1-12 Complete, preassembled system
Courtesy: Course Technology/Cengage Learning

2. Study the advertisement and list the following specifications:
   - Processor/MHz _____
   - RAM: _____
   - OS: _____
   - HDD capacity: _____
   - Monitor: _____
   - Video card: _____
   - Sound/speakers: _____
   - Other drives: _____
   - Bonus items: _____
   - Bundled software: _____
   - Total price: _____
3. Find advertisements similar to those in Figure 1-13. Notice that the items are grouped by component type.

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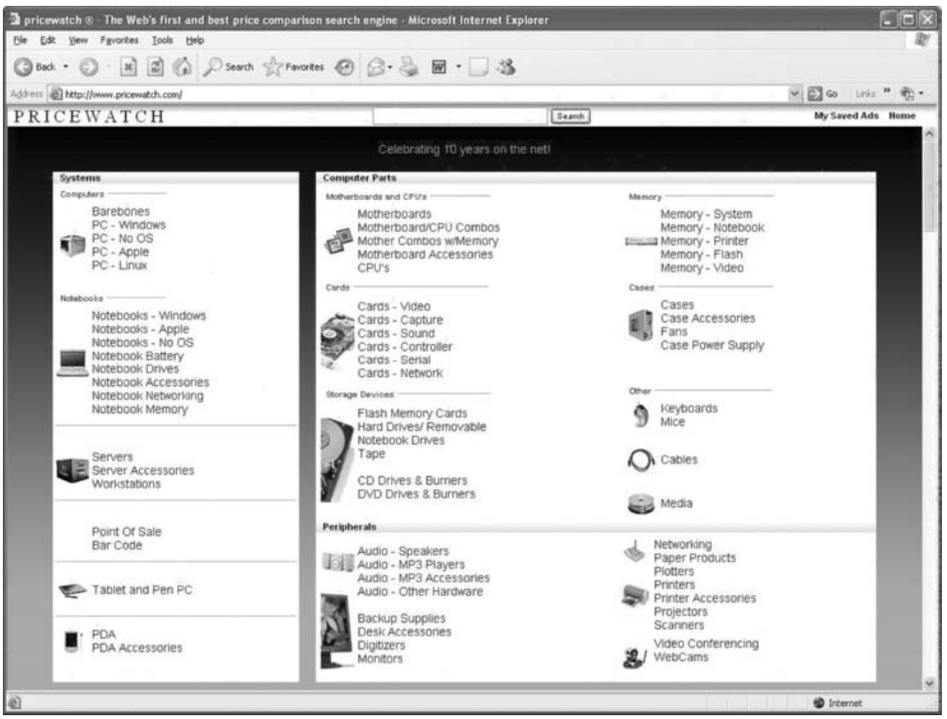

Figure 1-13 Components for sale
Courtesy: Course Technology/Cengage Learning

4. Using the following chart, list and describe the comparable components, their prices, and the source of your information. You might want to check several sources to find the best price. Remember, most mail-order or online purchases have shipping costs. If you can determine an exact shipping price for each component, include this information as part of the component's price. If you can't find the exact shipping price, include a 10 percent fee as part of the price for each shipped component. You might have to include tax, depending on the taxing laws that apply. Sometimes the shipping cost is offset by not having to pay sales tax on an item. Also, because you're early in the course, you might not know enough details about matching components inside the computer case, such as matching a processor to a motherboard. How to find correct matches is covered later in the book, but for now, a close match is all that's necessary.

Component	Description	Source	Price
Processor/MHz			
Motherboard			
RAM			
Case and power supply			
HDD type and capacity			
CD/DVD-ROM drive			
Other drives			
Monitor			
Sound/speakers			
Bonus items (such as video card)			
Operating system			
Bundled software			
TOTAL SYSTEM PRICE			

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REVIEW QUESTIONS

1. Which approach to acquiring a system seems to be less expensive?

2. What is the single most expensive component of a system built from separate components?

3. What was the estimated cost of shipping (if any) for the component-built system?

4. What are some potential pitfalls of building your own PC? Rewards?

Notes As you continue with this course, you'll be better able to answer this last question based on your own experiences.

LAB 1.6 PLAN AN IDEAL SYSTEM

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OBJECTIVES

The objective of this lab is to plan and price your own ideal system within a budget. After completing this lab, you will be able to:

- Describe what you want your system to be able to do
- Pick components that best meet your goal
- Stay within a budget

MATERIALS REQUIRED

This lab requires the following:

- Internet access and/or access to a computer publication, such as *Computer Shopper*

LAB PREPARATION

Before the lab begins, the instructor or lab assistant needs to do the following:

- Provide Internet access in the lab or announce that students need to bring computer publications, such as *Computer Shopper*, to the lab.

ACTIVITY BACKGROUND

In the future, you might be in a position to build a system to your specifications from separate components. Within a budget of $800, what system would you put together? In this lab, you determine the answer based on your current knowledge and experience. Expect that your opinions will likely change as you continue in this course.

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ESTIMATED COMPLETION TIME: 30 Minutes

Activity

1. On a separate piece of paper, make a chart similar to the one used in Lab 1.5. Use it to list the components you would like to include in your system, the cost of each component, and the source for each component. To begin, list everything you want without considering price.
2. After you have determined the total price of all the components you want to include in your ideal system, add up the prices and see whether you are within your $800 budget.
3. If you are under budget, consider including additional components or better versions of components. If you're over budget, determine what components you need to exclude or whether you need to use less expensive versions of some components. Either way, record what components you choose. Also, note how you altered your ideal system to meet your budget.

CHALLENGE ACTIVITY (ADDITIONAL 30 MINUTES)

Not all systems have the same requirements. A server might require lots of RAM and storage space, while a gaming machine would benefit from a more powerful video card. Design a custom $1500 system as either an optimal gaming machine or a media center. Create a one-page advertisement listing both the benefits and the technical specifications of your system.

REVIEW QUESTIONS

1. What is the goal of your original system? In other words, how do you plan to use your system? Explain your choices for components.

2. How would you change your choices if you were to use this computer in a corporate office as a business workstation?

3. What changes would you make if you had an extra $200 in the budget?

4. How might you change your design if your budget was only $600?

Tip Keep your responses to this lab for later reference. As you learn more about PCs in this course, you can look back at these responses and see where you might change your mind based on new information you have learned.

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